

Appl. No. 09/913,870
Atty. Docket No. 7441
Amdt. dated January 26, 2004
Reply to Office Action of January 12, 2004
Customer No. 27752

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An automatic dishwashing detergent composition comprising:
 - (a) from about 5% to about 90% by weight of the composition of a builder;
 - (b) from about 0.1% to about 15% by weight of the composition of a nonionic surfactant, wherein said nonionic surfactant is selected from the group consisting of:
 - (i) a nonionic surfactant of the formula
$$R^1(EO)_a(PO)_b(BO)_c$$
wherein R^1 is a linear or branched C_6 to C_{20} alkyl; a is from about 2 to about 30; b is from 0 to about 30; c is from about 1 to about 30; and said nonionic surfactant has an X/Y number less than 1.90;
 - (ii) a nonionic surfactant of the formula:
$$R^1O[CH_2CH(R^3)O]_eR^2$$
wherein R^1 is a linear or branched, saturated or unsaturated, aliphatic or aromatic hydrocarbon radicals having from 1 to 30 carbon atoms; R^2 is a linear or branched, saturated or unsaturated, aliphatic or aromatic hydrocarbon radicals having from 1 to 30 carbon atoms, wherein R^2 optionally contains from 1 to 5 hydroxy groups; and wherein R^2 optionally is substituted with an ether group; R^3 is H, or a linear aliphatic hydrocarbon radical having from 1 to 4 carbon atoms; e is an integer having an average value from 1 to 40, wherein R^2 can optionally be alkoxylated, wherein said alkoxy is selected from ethoxy, propoxy, butoxy and mixtures thereof; and
 - (iii) mixtures thereof;
 - (c) optionally, from about 0.1% to about 40% by weight of the composition of a bleaching agent selected from the group consisting of hydrogen peroxide, a source of hydrogen peroxide, sodium perborate, sodium percarbonate, and mixtures thereof; and
 - (d) adjunct materials.

Claims 2-10 - (canceled)

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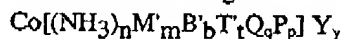
11. (previously presented) The automatic dishwashing detergent composition according to Claim 1 wherein said builder is a phosphate builder.
12. (previously presented) The automatic dishwashing detergent composition according to Claim 1 further comprising a co-surfactant selected from the group consisting of low cloud point nonionic surfactants, high cloud point nonionic surfactants, anionic surfactants, and mixtures thereof.
13. (previously presented) The automatic dishwashing detergent composition according to Claim 12 wherein the high cloud point nonionic surfactants are selected from the group consisting of straight chain fatty alcohols containing from about 6 to about 20 carbon atoms, branched chain fatty alcohols containing from about 6 to about 20 carbon atoms, secondary fatty alcohols containing from about 6 to about 20 carbon atoms, branched alcohol ethoxylates condensed with an average of from about 6 to about 15 moles of ethylene oxide per mole of alcohol, secondary alcohol ethoxylates condensed with an average of from about 6 to about 15 moles of ethylene oxide per mole of alcohol, and mixtures thereof.
14. (previously presented) The automatic dishwashing detergent composition according to Claim 12 wherein the low cloud point nonionic surfactants are selected from the group consisting of ethoxylates derived from primary alcohol, polyoxypropylene/polyoxyethylene/polyoxypropylene reverse block polymers, ethoxylated-propoxylated alcohol, epoxy-capped poly(oxyalkylated) alcohols, and mixtures thereof.
15. (previously presented) The automatic dishwashing detergent composition according to Claim 14 wherein the low cloud point nonionic surfactants have a cloud point of less than 20°C.
16. (previously presented) The automatic dishwashing detergent composition according to Claim 15 wherein the low cloud point nonionic surfactants have a cloud point of less than 10°C.
17. (previously presented) The automatic dishwashing detergent composition according to Claim 13 wherein the high cloud point nonionic surfactants have a cloud point of greater than 50°C.

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18. (previously presented) The automatic dishwashing detergent composition according to Claim 17 wherein the high cloud point nonionic surfactants have a cloud point of greater than 60°C.
19. (previously presented) The composition according to Claim 1 wherein said nonionic surfactant is selected from the group consisting of C9,11PO3EO13PO15; C9,11PO3EO13BO6; C9,11PO3EO13BO3; C9,11EO13BO6; C9,11EO13BO3; C9,11BO1EO13BO3; C9,11EO8BO3; C12,15EO7BO2; C9,11EO8BO2; C9,11EO8BO1; C12,13EO6.5TBO1; C9,11EO8C(CH3)2CH2CH3; C11/15EO15PO6C12/14; C9,11EO8(CH2)4CH3; and mixtures thereof.
20. (previously presented) The automatic dishwashing detergent composition according to Claim 1 comprising a bleaching agent selected from hydrogen peroxide, a source of hydrogen peroxide, and mixtures thereof.
21. (previously presented) The automatic dishwashing detergent composition according to Claim 1 wherein said bleaching agent is dibenzoyl peroxide.
22. (previously presented) The automatic dishwashing detergent composition according to Claim 1 comprising a bleaching agent selected from sodium perborate, sodium percarbonate, and mixtures thereof.
23. (previously presented) The automatic dishwashing detergent composition according to Claim 1 wherein said bleaching agent is dichloroisocyanurate.
24. (canceled)
25. (previously presented) The automatic dishwashing detergent composition according to Claim 1 comprising a bleach activator material selected from the group consisting of tetraacetylenediamine, cationic bleach activators, and mixtures thereof.
26. (previously presented) The automatic dishwashing detergent composition according to Claim 1 further comprising a metal-containing bleach catalyst selected from manganese-containing bleach catalysts, cobalt-containing bleach catalysts, and mixtures thereof.

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27. (previously presented) The automatic dishwashing detergent composition according to Claim 26 wherein the cobalt-containing bleach catalyst has the formula:



wherein cobalt is in the +3 oxidation state; n is an integer from 0 to 5; M' represents a monodentate ligand; m is an integer from 0 to 5; B' represents a bidentate ligand; b is an integer from 0 to 2; T' represents a tridentate ligand; t is 0 or 1; Q is a tetradentate ligand; q is 0 or 1; P is a pentadentate ligand; p is 0 or 1; and $n + m + 2b + 3t + 4q + 5p = 6$; Y is one or more appropriately selected counteranions present in a number y, where y is an integer from 1 to 3, to obtain a charge-balanced salt; and wherein further at least one of the coordination sites attached to the cobalt is labile under automatic dishwashing use conditions and the remaining coordination sites stabilize the cobalt under automatic dishwashing conditions such that the reduction potential for cobalt (III) to cobalt (II) under alkaline conditions is less than 0.4 volts versus a normal hydrogen electrode.

28. (previously presented) The automatic dishwashing detergent composition according to Claim 27 wherein the bleach catalyst is selected from the group consisting of pentaamineacetatocobalt (III) nitrate.
29. (previously presented) The automatic dishwashing detergent composition according to Claim 1 further comprising a deterative enzyme.
30. (previously presented) The automatic dishwashing detergent composition according to Claim 29 comprising a deterative enzyme selected from the group consisting of proteases, lipases, cellulases, amylases, and mixtures thereof.
31. (previously presented) The automatic dishwashing detergent composition according to Claim 1 comprising less than 0.1% of active suds suppressing agent.
32. (previously presented) The automatic dishwashing detergent composition according to Claim 1 in the form of granules, tablets, or liquidgels.
33. (previously presented) A method of washing tableware in a domestic automatic dishwashing appliance, said method comprising treating the soiled tableware in an automatic dishwasher with an aqueous alkaline bath comprising an automatic dishwashing composition according to Claim 1.